Wireless Infrastructure

Solutions to Meet Growing Wireless Demand

August 14, 2012

PCIA

Working for Wireless *Everywhere*

Roadmap

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About PCIA

- PCIA—The Wireless Infrastructure Association ("PCIA") is the national trade association representing the wireless infrastructure industry.
- PCIA's members develop, own, manage, and operate towers and rooftop sites for all types of wireless, telecommunications, and broadcasting services.
- PCIA facilitates The DAS Forum, a broad-based non-profit organization dedicated to the development of the Distributed Antenna System ("DAS") and small cell component of the nation's wireless network.
- PCIA and its members partner with communities across the nation to effect solutions for wireless infrastructure deployment that are responsive to the unique sensitivities and concerns of each community.

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The Wireless Infrastructure Industry

- The wireless infrastructure ecosystem, from towers to small cells, is competitive, filled with thousands of different market participants.

- A neutral-host provider is a provider of wireless infrastructure unaffiliated with a wireless carrier that leases space on its towers to multiple service providers. With a neutral-host, a single deployment has the capacity to serve many more end-users.

  - The Commission has recognized on numerous occasions, "[w]hen communications towers are owned by independent companies rather than wireless service providers, it may increase efficiency in the industry, ease entry and enhance wireless service competition."

- Wireless service and infrastructure providers are investing billions of dollars to expand and improve wireless networks to provide the increased coverage and capacity businesses and consumers demand.

  - This growth feeds a highly competitive wireless infrastructure industry, which itself facilitates and improves competition between wireless service providers.

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Types of Wireless Infrastructure

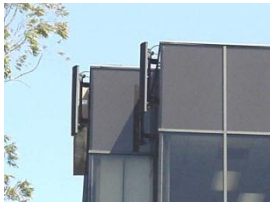
Monopole Tower with Collocation

Self-supporting Lattice Tower

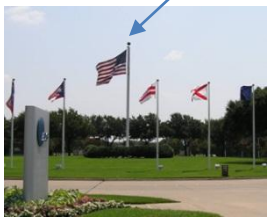
Guyed Tower

DAS on Pole Tops

Collocation



Concealed Designs



Microcells and Picocells

Demand Drives Deployment

Smartphone		=	x 24*
Handheld Gaming Console		=	x 60*
Tablet		=	x 122*
Mobile Phone Projector		=	x 300*
Laptop		=	x 515*

* Monthly basic mobile phone data traffic

Source: Cisco VNI Mobile, 2011

Consumers, businesses, and first responders demand and benefit from wireless services.

Increased demand for wireless services requires increased wireless network capacity and coverage.

Increased capacity and coverage requires additional infrastructure.

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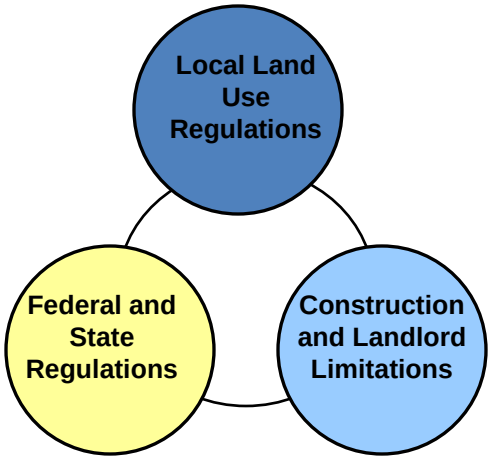
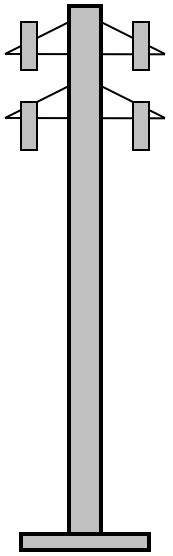
Siting Process Considerations

The process of siting wireless communications facilities implicates a variety of inputs and limitations.

Determine Need → **Evaluate Constraints** → **Construct and Operate Site**

Technical and Scientific Analysis of Capacity and Coverage





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Distributed Antenna Systems ("DAS") and Small Cell Solutions

- DAS and Small Cell Solutions allow for the increased coverage and capacity necessary to run the data hungry applications of today and the next generation applications of tomorrow.
  - These technologies supplement existing macro cellular sites, bringing the signal closer to the user and increasing the efficiency of already allocated spectrum.
- DAS and Small Cell Solutions have been applied outdoors along existing public rights of way through attachments to utility poles, light fixtures and rooftops, and indoors in stadium and arena settings as well as hotels, office buildings and underground rail facilities.
- The laws and regulations that exist today do not consider DAS and Small Cell Solutions. Because of this, the wireless industry is consistently faced with inserting these new technologies into ill-fitting categories that slow the rollout of advanced wireless services.

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Solutions to Facilitate Deployment of Next-Generation Networks

- Review and revise outdated wireless infrastructure regulations impacting the efficient use of existing facilities and the deployment of next-generation wireless networks.
- Update laws and regulations affecting DAS and Small Cell Solutions to account for the difference in their application and facilitate their buildout.
- Encourage an open, fair, and balanced wireless siting process by educating state and local officials and developing best practices and guidelines to provide consistency and encourage investment and deployment.

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